

PRELIMINARY AMENDMENT
Continuation of U.S. Application No. 09/703,649

IN THE CLAIMS:

The claims are as follows:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (New) A decoder for decompressing a compressed video signal, the compressed video signal containing entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns to produce a set of reordered coefficients, and also containing a scanning mode signal indicating the selected one of the plurality of different scanning patterns, the decoder comprising:

an entropy decoder operative to decode the entropy encoded data and to output entropy decoded data; and

a scanner operative to scan the entropy decoded data according to the one selected pattern of the plurality of different scanning patterns as indicated by the scanning mode signal.

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11. (New) A decoder for decoding a coded data signal containing a compressed video signal and a scanning mode signal, the decoder comprising:

an entropy decoder to which is applied the compressed video signal, the compressed video signal including entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a specific pattern selected from a plurality of different scanning patterns to produce a set of reordered coefficients, said entropy decoder being operative to entropy decode the entropy encoded data and to output entropy decoded data; and

a scanner operative to scan the entropy decoded data responsive to the scanning mode signal, and to output scanned data, wherein the scanning mode signal indicates the specific scanning pattern.

12. (New) The decoder according to claim 11 wherein the coded data signal further includes additional information.

13. (New) The decoder according to claim 11 wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

14. (New) The decoder according to claim 12, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal, and wherein said decoder further includes a demultiplexer which demultiplexes the entropy encoded data, the scanning mode signal and the additional information.

15. (New) The decoder according to claim 11, wherein the entropy encoded data is encoded according to a variable length encoding regime.

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16. (New) The decoder according to claim 11, wherein the scanner scans the entropy decoded data according to a runlength decoding regime.

17. (New) The decoder of claim 11, further comprising a dequantizer which dequantizes the scanned data output by said scanner and outputs dequantized data.

18. (New) The decoder of claim 17, further comprising an inverse discrete cosine transformer which inverse discrete cosine transforms the dequantized data output by said dequantizer.

19. (New) A decoder, comprising:
decoding means to which is applied a coded data signal including a compressed video signal, the compressed video signal including entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns to produce a set of reordered coefficients and, the coded data signal also including a scanning mode signal indicating the selected one of the plurality of different scanning patterns, said decoding means for entropy decoding the entropy encoded data and for outputting entropy decoded data; and
scanning means for scanning the entropy decoded data according to the selected pattern indicated by the scanning mode signal.

20. (New) The decoder according to claim 19, wherein the coded data signal further includes additional information.

21. (New) The decoder according to claim 19, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal, and wherein said

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decoder further includes a demultiplexing means for demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

22. (New) The decoder according to claim 19, wherein the entropy encoded data is encoded according to a variable length encoding regime.

23. (New) The decoder according to claim 19, wherein the scanning means scans the entropy decoded data according to a runlength decoding regime.

24. (New) The decoder according to claim 19, further comprising dequantizing means for dequantizing the scanned data output by said scanning means and for outputting dequantized data.

25. (New) The decoder according to claim 19, further comprising inverse discrete cosine transformer means for inverse discrete cosine transforming the dequantized data output by said dequantizing means.

26. (New) A decoding apparatus for decoding a coded data signal which includes entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block, the set of video spatial frequency coefficients having been reordered from an original order according to a scanning pattern selected from a plurality of scanning patterns, the coded data signal also including a scanning mode signal indicating the selected scanning pattern, the decoding apparatus comprising:

an entropy decoder which entropy decodes the entropy encoded data to produce entropy decoded data; and

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a scanning unit which receives the entropy decoded data and returns the set of video spatial frequency coefficients of an individual sub-block to the original order according to the selected scanning pattern indicated in the scanning mode signal.

27. (New) The decoding apparatus according to claim 26, wherein the coded data signal further includes additional information.

28. (New) The decoding apparatus according to claim 26, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

29. (New) The decoding apparatus according to claim 27, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein said decoding apparatus further includes a demultiplexer which demultiplexes the entropy encoded data, the scanning mode signal and the additional information.

30. (New) The decoding apparatus according to claim 26, wherein the entropy encoded data is encoded according to a variable length encoding regime.

31. (New) The decoding apparatus according to claim 26, wherein the scanning unit scans the entropy decoded data according to a runlength decoding regime.

32. (New) The decoding apparatus of claim 26, further comprising a dequantizer which dequantizes the scanned data output by said scanning unit and outputs dequantized data.

33. (New) The decoding apparatus of claim 32, further comprising an inverse discrete cosine transformer which inverse discrete cosine transforms the dequantized data output by said dequantizer.

34. (New) A method of decoding a compressed video signal, comprising:

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receiving a coded data signal, the coded data signal including a compressed video signal having entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns to produce a set of reordered coefficients, the coded data signal also including a scanning mode signal indicating the selected one of the plurality of different scanning patterns; entropy decoding the entropy encoded data and outputting entropy decoded data; and scanning the entropy decoded data according to the selected pattern indicated by the scanning mode signal and outputting scanned data.

35. (New) The method of claim 34, wherein the coded data signal further includes additional information.

36. (New) The method of claim 34, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

37. (New) The method of claim 35, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein said decoding step further includes demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

38. (New) The method of claim 34, wherein the entropy encoded data is encoded according to a variable length encoding regime.

39. (New) The method of claim 34, wherein the scanning step comprises scanning the entropy decoded data according to a runlength decoding regime.

40. (New) The method of claim 34, further comprising a step of dequantizing the scanned data output by said scanning step and outputting dequantized data.

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41. (New) The method of claim 40, further comprising a step of inverse discrete cosine transforming the dequantized data output by said dequantizing step.

42. (New) A method of decoding a coded data signal which includes entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block, the set of video spatial frequency coefficients having been reordered from an original order according to a scanning pattern selected from a plurality of scanning patterns, the coded data signal also including a scanning mode signal indicating the selected scanning pattern, the method comprising:

entropy decoding the entropy encoded data to produce entropy decoded data; and
scanning the entropy decoded data and returning the set of video spatial frequency coefficients of an individual sub-block to the original order according to the selected scanning pattern indicated in the scanning mode signal.

43. (New) The method of claim 42, wherein the coded data signal further includes additional information.

44. (New) The method of claim 42, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

45. (New) The method of claim 43, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein the method further comprises demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

46. (New) The method of claim 42, wherein the entropy encoded data is encoded according to a variable length encoding regime.

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47. (New) The method of claim 42, wherein in said scanning step the entropy decoded data is scanned according to a runlength decoding regime.

48. (New) The method of claim 42, further comprising a step of dequantizing the scanned data output by said scanning step and outputting dequantized data.

49. (New) The method of claim 48, further comprising a step of inverse discrete cosine transforming the dequantized data output by said dequantizing step.